

INTERVIEW SUMMARY

Applicants gratefully acknowledge the courtesy extended by examiners Ralis and Jennison on the telephone interview conducted with applicants' below-named counsel on Dec. 21, 2010. We discussed how the invention determines a compensation data set or compensation function before freeform sintering and/or freeform melting begins. The examiners indicated that this could be made more clear if the steps were presented in order in the claim and if we specified that the determining occurred before the first or before any of the freeform sintering and/or freeform melting on the product. Such a clarification would distinguish over Liu, because Liu compensates as the product is being made. The examiner also expressed some confusion as to the meaning of "occurring after the product is released from the carrier." Applicants have amended the claims to address the issues raised by the examiners and put the claims into condition for allowance over the art of record.

REMARKS

Claims 1-5 and 9-16 and 18 were rejected under 35 U.S.C. §102(b) as being anticipated by Liu. The claims have been amended to clarify the language distinguishing Applicants' invention from Liu. In particular, Applicants determine a compensation data set and/or a compensation function "before any freeform sintering and/or freeform melting begins in connection with the product to be produced." Compensation for manufacturing related effects are computed in advance of the production process so that the control data set for operating the production apparatus already takes into account such effects. In claim 1, the language "occurring after the product is released from the carrier" has been replaced by "expected to occur after the product is released from the carrier" so as to be consistent with conducting the calculations before the production process. According to Applicants' claimed invention it is not required to first produce an error during production of a layer and then to detect the error and only then compensate for this error in subsequent manufacturing steps of further layers.

Liu discloses a method for detection and rectification of layer variations. Liu's method involves monitoring the physical dimensions of the physical layers being deposited and feeding back the obtained data to the computer for recalculating new layer data. As set forth in paragraph 103 of Liu, "The data obtained are fed back periodically to the computer for recalculating new layer data. This option provides an opportunity to detect and rectify potential layer variations; such errors may otherwise cumulate during the building process, leading to some part inaccuracy." The approach taught by Liu is referred to as "adaptive layer slicing." Liu describes, "Periodically re-calculate another set of logical layers after periodically comparing the dimension data acquired by the sensor with the computer aided design representation in an adaptive matter." (Paragraph 50, Liu). In accordance with Applicant's invention, compensation is incorporated into the control data set before the production process begins. Liu does not address a system for computing compensation data from a product target geometry data set but rather focuses on a sensor means for detecting the dimension of a physical part of the product and to calculate new product data from such detected data. Thus, as amended, claims 1-5 and 9-16 and 18 fully distinguish over Liu.

Claims 6-8 and 17 were rejected under 35 U.S.C. §103(a) as being unpatentable over Liu in view of Riley. Riley does not overcome the deficiencies of Liu. As explained above, Applicants' invention is distinguished over the prior art in that compensation is determined before the freeform sintering and/or freeform melting begins. Thus for these same reasons, claims 6-8 and 17 are patentable over the art of record.

For all the foregoing reasons, Applicants submit that the present application is in condition for allowance and early notice to that effect is respectfully solicited.

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Respectfully submitted,

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